The entropy of Nakada's α-continued fractions: analytical results

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Abstract. We study the ergodic theory of a one-parameter family of interval maps T_α arising from generalized continued fraction algorithms. First of all, we prove the dependence of the metric entropy of T_α to be Hölder-continuous in the parameter α. Moreover, we prove a central limit theorem for possibly unbounded observables whose bounded variation grows moderately. This class of functions is large enough to cover the case of Birkhoff averages converging to the entropy.